

December 6, 1971
Preliminary Copy
University of Idaho
Soil Conservation Service

Helmer Silt Loam 69 Ida 0518 (Modal)

General Site Characteristics

Location -- Benewah County, Idaho; 320 feet east and 310 feet south of northwest corner section 32, T. 45 N., R. 3 W.; described -- September 17, 1969, by J. Chugg, E. Moore and M. Fosberg; topography -- rolling plain, slightly convex, 5 percent slope; aspect -- northwest; elevation -- 3,180 feet; parent material -- loess and volcanic ash; climate -- mean annual precipitation is 30 to 45 inches; drainage -- moderately well; vegetation -- western red cedar habitat type that includes grand fir, white pine, hemlock, western larch; classification -- Andic Fragiochrepts, coarse-silty, mixed, frigid.

Typifying Pedon

01 & 02 3-0 inches. Needles and twigs and partly decomposed organic matter on the mineral soil.

B21ir 0-5 inches. Yellowish brown (10YR 5/4) silt loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; abundant very fine, fine, medium and coarse roots; many fine pores; clear smooth boundary.

B22ir 5-11 inches. Light yellowish brown (10YR 6/4) silt, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; abundant very fine, fine, medium and coarse roots; few fine pores; clear smooth boundary.

B23ir 11-16 inches. Pale brown (10YR 6/3) silt loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; abundant very fine, fine, medium and coarse roots; few fine pores; abrupt wavy boundary.

A2 16-17 inches. Very pale brown (10YR 7/3) silt loam, dark brown (10YR 3/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many fine pores; abrupt wavy boundary.

B' & A' 17-36 inches. Pale brown (10YR 6/3) and very pale brown (10YR 7/3) silt loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many fine pores; thin

patchy clay films on ped surfaces; many fine iron and manganese concretions (about 45% A2 like material); abrupt wavy boundary.

B'2tx 36-56 inches. Brown (10YR 5/3) and very pale brown (10YR 7/3) silt loam, dark brown or brown (10YR 4/3) and yellowish brown (10YR 5/4) moist; weak medium and fine subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine and fine roots; many medium pores; moderate continuous clay films in pores; abundant fine iron and manganese concretions; few coarse fragments; gradual wavy boundary.

REMARKS: Weakly expressed fragipan in the 36-56 inch layer.

Chemical characterization and physical analysis of profile 69 Ida 0518

Date: December 1, 1971

Helmer Silt Loam

No.	Horizon	Depth in.	pH Paste	pH 1:5	ECx10 ³	Saturation extract me/1000 gms soil			
						Ca	Mg	Na	K

Exchangeable ions me/100 gms					C.E.C. me/100	Base Sat. %	Gyp. %	CaCO ₃ %	E.S.P.	C %	O.M. %	N %	C:N	Pw at sat.	Soil:Rx Ratio
Ca	Mg	Na	K	H											
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1.13	0.67	0.20	1.13	10.43	21.41	23.08				1.84	3.16	0.120	15.33	81.5	None
0.85	0.75	0.15	0.80	8.93	17.03	22.21				0.96	1.66	0.075	12.80	74.0	None
0.65	0.58	0.15	0.48	7.61	18.72	19.64				0.68	1.17	0.052	13.08	69.5	None
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1.58	1.98	0.10	0.34	3.29	13.84	54.87				0.16	0.28	0.025	6.40	42.5	None
1.75	2.50	0.10	0.32	3.29	12.35	58.67				0.20	0.34	0.028	7.14	39.5	None

Profile: 69 Ida 0518

Date: November 17, 1971

No.	Particle size distribution (mm) (percent)								Gravel &	
	VCS	CS	MS	FS	VFS	TS	TSi	TC	Stone, etc.	Texture
	2-1.0	1-0.5	0.5-0.25	0.25-0.05	0.1-0.05		0.05-0.002	<0.002	>2mm	Class
0-5	0.92	1.78	0.70	1.30	8.44	13.14	75.61	11.25	None	Silt Loam
5-11	0.45	1.61	0.83	1.70	8.10	12.69	80.35	6.96	None	Silt
11-16	0.83	1.93	0.94	1.80	8.69	14.20	78.81	6.99	None	Silt Loam
17-36	0.61	1.47	0.84	1.86	5.66	9.59	75.75	14.66	None	Silt Loam
36-56	0.86	2.08	1.30	1.72	7.14	13.09	66.10	20.81	None	Silt Loam

REMARKS: Centrifuge Method
Calgon Added
Finished November 14, 1971

No.	CSi	MSi	FSi
0-5	31.24	41.78	2.59
5-11	36.19	40.21	3.95
11-16	39.98	34.23	4.60
17-36	35.02	36.04	4.69
36-56	30.72	31.05	4.33

Bulk
Density
g/cc
8.95
0.92
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1.72
1.57